

What is claimed is:

1. A method of creating a groove in a surface of a collector ring of an electrical device, the method comprising:
 - positioning a masking material over a portion of the surface of the collector ring to define a masked portion and an exposed portion of the surface of the collector ring;
 - creating the groove in the exposed portion of the surface of the collector ring; and
 - removing the masking material from the surface of the collector ring.
2. The method of claim 1, wherein the masking material is positioned in a helical pattern about the surface of the collector ring, and the groove that is created is a helical shaped groove about the surface of the collector ring.
3. The method of claim 1, wherein the masking material defines a track, the track defining the exposed portion of the surface of the collector ring.
4. The method of claim 3, wherein the track is used as a guide to create the groove in the exposed portion of the surface of the collector ring.
5. The method of claim 1, wherein the collector ring is cylindrical in shape, and the surface is an outer peripheral surface, and the groove forms a helical or spiral shape about the outer peripheral surface of the cylindrical collector ring.

6. The method of claim 1, wherein the groove is created by grinding the exposed portion of the surface.

7. The method of claim 1, wherein the groove is created by grinding the exposed portion of the surface using a rotary grinding tool.

8. The method of claim 7, wherein the grinding tool is a hand held tool.

9. The method of claim 8, further including the step of positioning a support structure adjacent the surface of the collector ring, and using the support structure as a support for the hand held rotary grinding tool.

10. The method of claim 1, wherein the surface of the collector ring, prior to the creating step, is substantially free of grooves.

11. The method of claim 1, wherein the surface of the collector ring prior to the creating step includes at least one existing groove therein, and the positioning step includes positioning the material about the collector ring such that the exposed portion defined by the masking material includes at least a portion of the existing groove.

12. The method of claim 1, wherein the surface of the collector ring prior to the creating step includes at least one existing groove therein, and the positioning step

includes positioning the material about the collector ring such that the exposed portion corresponds substantially with the existing groove.

13. The method of claim 1, wherein the collector ring is from an electrical generator or motor.

14. The method of claim 1, wherein the masking material is a metal band of material.

15. The method of claim 14, wherein the metal band is a steel band.

16. The method of claim 1, wherein the masking material is one continuous piece of material.

17. The method of claim 1, wherein the masking material is made up of two or more individual pieces of material.

18. A method for creating a groove in a peripheral surface of a collector ring of an electrical device, the method comprising:

positioning a band of masking material in a pattern about the peripheral surface of the collector ring to create a track defining an exposed portion of the peripheral surface of the collector ring;

creating the groove in the exposed portion of the peripheral surface of the collector ring; and

removing the masking material from the peripheral surface of the collector ring.

19. The method of claim 18, wherein the positioning step includes positioning the band of masking material in a helical pattern about the peripheral surface of the collector ring to create a helical track defining a helical shaped exposed portion of the peripheral surface of the collector ring, and wherein the groove that is created is a helical groove in the peripheral surface of the collector ring.

20. The method of claim 18, wherein the track is used as a guide to create the groove in the exposed portion of the surface of the collector ring.

21. The method of claim 18, wherein the groove is created by grinding the exposed portion of the surface using a rotary grinding tool.

22. The method of claim 21, wherein the grinding tool is a hand held tool.

23. The method of claim 18, wherein the masking material is a metal band of material.

24. The method of claim 23, wherein the metal band is a steel band.

25. A method of creating a helical shaped groove in a surface of a collector ring of an electrical device, the method comprising:

positioning a band of material over a portion of the surface of the collector ring to create a helical shaped track defining a helical shaped exposed portion of the surface of the collector ring;

grinding the groove in the exposed portion of the surface of the collector ring using a rotary grinding tool; and

removing the masking material from the surface of the collector ring.

26. A method for creating a groove in a peripheral surface of a collector ring of an electrical generator or motor, the method comprising:

positioning a means for masking a portion of the peripheral surface and creating a helical shaped exposed portion of the peripheral surface of the collector ring;

creating the groove in the exposed portion of the outer peripheral surface; and

removing the masking material from the outer peripheral surface of the collector ring.

27. A method of creating a groove in a surface of a collector ring of an electrical device, the method comprising:

cutting the groove in the surface of the collector ring using a cutting tool that has a cutting action that functions independently from the motion of the collector ring.

28. The method of claim 27, wherein the surface of a collector ring includes an existing groove therein, and in the cutting step, the existing groove is used as a guide for cutting the groove.

29. The method of claim 27, wherein the cutting tool is a grinder.

30. The method of claim 27, wherein the cutting tool is a rotary grinder.

31. The method of claim 27, wherein the cutting tool is a hand held rotary grinder.

32. The method of claim 27, wherein the cutting tool is a rotary grinder mounted to a support structure proximate the surface of the collector ring.

33. The method of claim 32, wherein the support allows for lateral movement of the rotary grinder along the surface of the collector ring.